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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,694	08/21/2000	Teiji Kohara	001046	8839

23850 7590 09/11/2002

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW.
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

TON, ANABEL

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/622,694

Applicant(s)

KOHARA ET AL.

Examiner

Anabel M Ton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 9 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8, 10-13 and 19-22 is/are rejected.
- 7) ☒ Claim(s) 14-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-5,7 and 10-13 have been considered but are moot in view of the new ground(s) of rejection.
2. The indicated allowability of claims 12,13 and 19-22 is withdrawn in view of the newly discovered reference(s) to the reflective structure. Rejections based on the newly cited reference(s) follow.

3.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5,7,8,10-13 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natori et al (5,883,192).
6. Natori discloses a reflector comprising a substrate comprised of a thermoplastic resin containing an alicyclic structure on which is formed a reflecting layer (col. 13 lines 41-43 and col. 52, line 3). With regards to the reflector having a reflectance of at least 70%, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a reflector with a reflectance of 70% since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering

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the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

- With regards to the lighting device having a lens for condensing light of a light source reflected by said reflector, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a lighting device with a condenser lens, since such a feature is old and well known in the art for further modifying reflected light from a lighting device (please see cited prior art, Schwartz);
- With regards to the lamp cover it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a lighting device with a cover allowing passage of light of a light source reflected by said reflector, since covers for lighting devices are old and well known in the art for the purposed of protecting the internal components of the lighting device;(please see Bockkooi et al)
- With regards to the lamp cap covering part or all of a light source, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a lamp cap in a lighting device since such a feature in a lighting device is old and well known in the art for the purposed of modifying emitted light from the light source (please see cited prior art Choji et al);
- With regards to the lighting equipment further comprising a light guide having a light incident face to which is introduced at least one type of light selected from the group of light from a light source and light from a light source reflected by a

reflector and an emission face emitting the incident light introduced from the incident surface to the outside, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a reflector into a light guide since such a structure is well known in the art for the purpose of promoting reflected light towards a desired direction of the light guide. (Please see cited art Riser et al);

- With regards to the reflecting layer is comprised of a metal, it has been held that to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, *In re Leshin*, 125 USPQ 416.
- With regards to the reflecting layer has a thickness of 5 to 10,000 nm, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a thickness of such a broad range since, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233;
- With regards to the reflecting layer is provided by vapor deposition, such a process of distributing material on a surface is old and well known in the art since it is old and well known that a vapor deposition process provides an even distribution of a desired material upon a chosen surface.
- The substrate is comprised of a resin composition containing a thermoplastic resin containing an alicyclic structure and at least one compounding agent

selected from the group comprising a partial ether compound of a polyhydric alcohol and/or a partial ester compound of a polyhydric alcohol, a soft polymer, a filler, and a compound incompatible with the thermoplastic resin having an alicyclic structure (col. 31, line 25)

- The substrate is comprised of a resin composition comprised of a thermoplastic resin containing an alicyclic structure to which is blended a soft polymer having a glass transition temperature of not more than 300C (col. 43, line 38);
- A lens for a lighting equipment comprised of a resin composition comprising: a thermoplastic resin containing an alicyclic structure and at least one compounding agent selected from the group comprising a partial ether compound of a polyhydric alcohol .

Allowable Subject Matter

7. Claims 6 and 9 are allowed.
8. Claims 14-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
 - The reflector for a lighting equipment as set forth in any of claims 7 to 15, characterized in that the thermoplastic resin containing an alicyclic structure has a melt flow rate, measured by JIS-K6719 at a temperature of 2800C and a load of 2.16 kgf, of 4 to 100 g/10 min.

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- A substrate comprised of a thermoplastic resin containing an alicyclic structure on which is provided a metal layer,
- The reflector for a lighting equipment as set forth in claim 7, characterized in that the substrate is comprised of a resin composition comprised of a thermoplastic resin containing an alicyclic structure to which is blended a crystalline polymer,
- The reflector for a lighting equipment as set forth in claim 7, characterized in that the substrate is comprised of at least one type of thermoplastic resin containing an alicyclic structure selected from the group comprising a ring-opening polymer of a Norborne-based monomer, a hydrogenate of a ring opening polymer of a norbornene-based monomer, and an addition polymer including addition type repeating units of an at least three-ring norbornene-based monomer;
- The reflector for a lighting equipment as set forth in any of claims 7 to 15, characterized in that the amount of repeating units containing polar groups in the thermoplastic resin containing an alicyclic structure is not more than 50 wt%.
- The reflector for a lighting equipment as set forth in any of claims 7 to 14, characterized in that the thermoplastic resin containing an alicyclic structure has repeating units comprised of ring structures other than norbornene rings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anabel M Ton whose telephone number is (703) 305-1084. The examiner can normally be reached on 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone

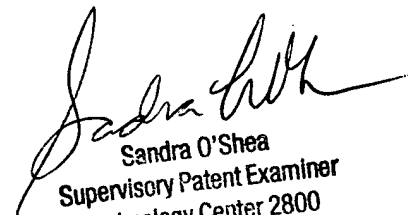
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numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Anabel M Ton
Examiner
Art Unit 2875

AMT
September 8, 2002


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800